

HEARING OFFICER'S REPORT

Regarding: Total Maximum Daily Loads (TMDLs) for the Army Creek,
Dragon Run Creek, and Red Lion Creek Watersheds

Lisa A. Vest
Hearing Officer

November 13, 2006

I. Background:

On Tuesday, August 29, 2006 at 6:00 p.m., a public hearing was held in the DNREC Offices located at 391 Lukens Drive, New Castle, Delaware, to receive public comment on the Department's proposed regulation to amend the Total Maximum Daily Loads ("TMDLs") for the Army Creek, Dragon Run Creek, and Red Lion Creek watersheds, as defined by elevation maps.

Section 303(d) of the Clean Water Act requires States to identify water quality impaired waterways and to develop Total Maximum Daily Loads ("TMDLs") for the pollutants that impair those waterways. DNREC has identified that the water quality of Army Creek (segments DE020-001, DE020-002, DE020-003), Red Lion Creek (segments DE270-001-01 and DE270-001-02), and Dragon Run Creek (segments DE130-001 and DE130-002) was impaired because of elevated bacteria and nutrient levels and low dissolved oxygen concentrations. These segments were placed on the State's 1996, 1998, 2002, 2004, and draft 2006 303(d) lists and were targeted for development of TMDLs.

The Army Creek, Dragon Run Creek, and Red Lion Creek watersheds are situated in the upper portion of the Delaware Bay and Estuary Drainage Basin on the eastern edge of Delaware in New Castle County, north of the Chesapeake and Delaware Canal. The Army Creek watershed lies furthest to the north, with the Christina River watershed bounding the northern edge. The Red Lion Creek watershed lies to the

south of the Army Creek Watershed and to the north of the Dragon Run Creek watershed. The Dragon Run Creek watershed lies furthest to the south with the C & D Canal watershed bounding the southern edge. Each stream flows to the east and discharges into the Delaware River. The three watersheds are similar in size. The Army Creek watershed is 26.0 km², the Red Lion Creek watershed is 28.4 km², and the Dragon Run Creek watershed is 26.9 km².

There are several point source facilities within the Army Creek, Red Lion Creek, and Dragon Run Creek watersheds, however, all treated wastewater is discharged into the Delaware River and not into these three tributaries. Therefore, all pollutants are coming from nonpoint sources. Since New Castle County in its entirety has been issued a Municipal Separate Storm Sewer System (MS4) permit (NPDES Permit #DE 0051071), the nonpoint source TMDL loads will be assigned as Waste Load Allocation (WLA) for the above watersheds.

The development of the Army Creek, Dragon Run Creek, and Red Lion Creek nutrient TMDLs was based on the assessment of Army Creek, Dragon Run Creek, and Red Lion Creek water quality and water flow under two different environmental conditions: (1) annual average condition; and (2) summer critical condition. The annual average condition considers medians of water quality and average water flow in the period of 2002-2005. The critical condition considers summer (June – September) water quality and 7Q10 water flow of the 2002-2005 period.

The U.S. EPA's Enhanced Stream Water Quality Model (Qual2K) was used as the framework for the water quality assessments. Water quality and discharge data collected during the 2002-2005 period was used to calibrate the models and data collected during the summer from the same period was used to simulate the critical conditions.

Draft proposed TMDLs for the Army Creek, Dragon Run Creek, and Red Lion Creek watersheds were reviewed during a public workshop held on May 16, 2006. All comments received at the workshop and during the May 1st through May 31st comment period were considered by the Department. The Department's technical report, "TMDL Analysis for the Watersheds of Army Creek, Red Lion Creek, and Dragon Run Creek, DE" as prepared by the Watershed Assessment Section, Division of Water Resources, August 2006, was updated to address comments regarding a more detailed discussion of sources of pollution; the process of selecting a Qual2K simulation date; the handling of stormwater outfall loads; and conservative assumptions supporting the implicit margin of safety. In addition, since the aforementioned workshop in May of 2006, further nutrient modeling analyses have been conducted in the Army Creek watershed to address the unnamed tributary to Army Creek, which was recently listed as impaired for bacteria, nutrients, and dissolved oxygen in the draft 2006 303(d) list. Also subsequent to the workshop, a minor modification was made in the bacteria analyses, resulting in slight changes to the bacteria percent reductions for the Army Creek, Dragon

Run Creek, and Red Lion Creek watersheds. These minor changes are all set forth in the Department's aforementioned technical report of August 2006, and will be discussed further within this Hearing Officer's Report. Proper notice of the hearing was provided as required by law.

II. Summary of the Public Hearing Record:

The public hearing record contains a six page verbatim transcript of the public hearing, and sixteen documents, marked as "List of Delaware DNREC Exhibits", which were admitted into the record as the Department's hearing exhibits. Two private citizens attended this hearing, but did not make any comments.

Jennifer Volk, an Environmental Scientist with the Watershed Assessment Section of the Department, presented the Department's exhibits into the record, which consisted of the following:

1. Proposed TMDLs Regulation for the Army Creek, Red Lion Creek, and Dragon Run Creek watersheds as published in the Delaware Register of Regulations issue of August 1, 2006.
2. Public Notice for the Public Workshop of May 16, 2006, to review the proposed TMDLs for the watersheds of Army Creek, Dragon Run Creek, and Red Lion Creek as published in Delaware Register of Regulations issue of May 1, 2006.
3. Legal Notices for the Public Workshop of May 16, 2006, to review proposed TMDLs for the watersheds of Army Creek,

Dragon Run Creek, and Red Lion Creek as published in the News Journal on April 23, 2006 and April 30, 2006.

4. Legal Notices for the Public Workshop of May 16, 2006, to review proposed TMDLs for the watersheds of Army Creek, Dragon Run Creek, and Red Lion Creek as published in the Delaware State News on April 23, 2006 and April 30, 2006.
5. PowerPoint Presentation by John Schneider of DNREC during the Public Workshop of May 16, 2006.
6. PowerPoint Presentation by Jennifer Volk and Sam Myoda of DNREC during Public Workshop of May 16, 2006.
7. PowerPoint Presentation by Kathy Bunting-Howarth of DNREC during Public Workshop of May 16, 2006.
8. Mid-Atlantic Environmental Law Center's May 31, 2006 comments regarding proposed TMDLs for the Army Creek, Red Lion Creek, and Dragon Run Creek watersheds.
9. TMDLs Technical Support Documents for the Army Creek, Red Lion Creek, and Dragon Run Creek watersheds, dated August 2006.
10. Public Notice for the Public Hearing of August 29, 2006, for the proposed TMDLs for the watersheds of Army Creek, Dragon Run Creek, and Red Lion Creek as published in Delaware Register of Regulations issue of August 1, 2006.

11. Legal Notices for the Public Hearing of August 29, 2006, for the proposed TMDLs for the watersheds of Army Creek, Dragon Run Creek, and Red Lion Creek as published in the News Journal on July 30, 2006 and August 6, 2006.
12. Legal Notices for the Public Hearing of August 29, 2006, for the proposed TMDLs for the watersheds of Army Creek, Dragon Run Creek, and Red Lion Creek as published in the Delaware State News on July 30, 2006 and August 6, 2006.
13. State of Delaware Surface Water Quality Standards, as amended, July 11, 2004.
14. Final 2004 Clean Water Act Section 303(d) List of Waters Needing TMDLs.
15. Draft Determination for the State of Delaware 2006 Clean Water Act Section 303(d) List of Waters Needing TMDLs.
16. Consent Decree and Settlement Agreement in American Littoral Society and Sierra Club v. EPA et al., Civil No. 96-591 (D. Delaware).

As noted previously, the public workshop comment period regarding these TMDLs ended on May 31, 2006. Prior to that, however, the Department received comments from the Mid-Atlantic Environmental Law Center (MAELC), and the same are included within the Department's exhibits as Exhibit #8 above. At the conclusion of that comment period, the Department reviewed MAELC's comments and considered them in

updating the TMDL technical support documents (see Dept. Exh. #9 above). These updates have, in the Department's opinion, improved the document overall, and resulted in slight changes to the proposed regulations, which are now reflected in the August issue of the Delaware Register of Regulations.

The State of Delaware Surface Water Quality Standards, as amended July 11, 2004 (see Dept. Exh. #13 above), establishes the standards and targets that these proposed TMDL regulations are designed to achieve. The Department must produce a watershed assessment report (also called a 305(d) report), as well as the list of waters not meeting water quality standards (also called a 303(d) list) every two years as required by the Clean Water Act. Copies of the final 2004 303(d) list and the draft 2006 303(d) list, both of which list segments from these three watersheds as impaired, are also included in the Department's exhibits as listed above (see Dept. Exh. 14 and 15 above).

The Department's final exhibit is the Consent Decree and Settlement Agreement between EPA and the American Littoral Society and the Sierra Club, which was executed in 1997. This document establishes a schedule for completing the TMDLs for State waters. Pursuant to this Consent Decree, these TMDLs for these three watersheds must be completed by December 2006.

For the Secretary's reference and review, the following documents are expressly incorporated into this report and attached hereto for the Secretary's review:

Attachment "A": Proposed TMDLs Regulation for the Army Creek, Red Lion Creek, and Dragon Run Creek watershed, as published in the Delaware Register of Regulations issue of August 1, 2006 (Dept. Exh. #1).

Attachment "B": Public comments dated May 31, 2006, from Mid-Atlantic Environmental Law Center regarding the proposed TMDLs Regulation for the Army Creek, Red Lion Creek, and Dragon Run Creek watershed (Dept. Exh. #8).

Attachment "C": *Total Maximum Daily Loads (TMDLs) Analysis for the Watersheds of Army Creek, Red Lion Creek, and Dragon Run Creek, Delaware*, as prepared by Watershed Assessment Section, Division of Water Resources, DNREC, August 2006 (Dept. Exh. #9).

Again, outside of the comments received in May of 2006 as a result of the public workshop (which were, as noted above, considered and incorporated into the Department's technical support document of August 2006), no further comments were received by the Department during either the public hearing itself on August 29, 2006, or during the comment period phase which ended on September 15, 2006.

III. Discussion and Reasons:

Federal regulations of 40 CFR Section 130 require that TMDLs must meet the following regulatory requirements:

1. The TMDLs must be designed to achieve applicable water quality standards;
2. The TMDLs must include a total allowable load as well as individual waste load allocations for point sources and load allocations for nonpoint sources;
3. The TMDLs must consider the impact of background pollutants;
4. The TMDLs must consider critical environmental conditions;
5. The TMDLs must consider seasonal variations;
6. The TMDLs must include a margin of safety;
7. The TMDLs must have been subject to public participation;
8. There should be a reasonable assurance that the TMDLs can be met.

Each of these requirements are discussed in depth in Section 6.0 of the Department's *Total Maximum Daily Loads (TMDLs) Analysis for the Watersheds of Army Creek, Red Lion Creek, and Dragon Run Creek, Delaware*, and has been expressly incorporated into this Hearing Officer's report and attached hereto as Attachment "C". Again, rather

than repeating that information within this report, the Secretary may get an in-depth understanding of how these proposed TMDLs meet the aforementioned regulatory requirements by reviewing Attachment “C” as noted above. With regard to the requirement of the TMDLs being subject to public participation, it should be considered that public comments were received by the Department during the workshop phase of this matter, and that these proposed TMDLs reflect slight changes based upon those comments received subsequent to the public workshop in May of 2006. Although the public was given another opportunity to offer additional comments at the hearing on August 29, 2006 and during the comment period (which ended on September 15, 2006), no members of the public did so.

Finally, the TMDLs for the Army Creek, Red Lion Creek, and Dragon Run Creek require reduction of nutrients and bacteria from nonpoint sources. As a result of these reductions, water quality standards with regard to dissolved oxygen and enterococcus bacteria will be met in all segments of these three water bodies. Following adoption of these TMDLs, DNREC, in association with local citizen groups and other affected parties, will implement the requirements of these TMDLs through the development of Pollution Control Strategies. Thus, it is logical to conclude that there is a reasonable assurance that the TMDLs for the Army Creek, Red Lion Creek, and Dragon Run Creek can be met.

IV. Conclusions and Recommended Findings:

Based on the record developed, I find and conclude that the record supports approval of the proposed regulation set forth in Attachment "A" hereto as a final regulation. In addition, I recommend issuing the attached Secretary's Order to effectuate this purpose and adopting the Hearing Officer's following findings and conclusions:

1. The Department has jurisdiction under its statutory authority to make a determination in this proceeding;
2. The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and regulations;
3. The Department held a public hearing in a manner required by the law and regulations;
4. The Department considered all timely and relevant public comments in making its determination;
5. The Department's proposed regulation, as published in the August 1, 2006 *Delaware Register of Regulations* and set forth in Attachment "A" hereto, is adequately supported, not arbitrary or capricious, and is consistent with the applicable laws and regulations. Consequently, it should be approved as a final regulation, which shall go into effect ten days after its

publication in the next available issue of the *Delaware Register of Regulations*; and that

6. The Department shall submit the proposed regulation as a final regulation to the Delaware Register of Regulation for publication in its next available issue, and shall provide written notice to the persons affected by the Order.

/s/ Lisa A. Vest.
Lisa A. Vest
Hearing Officer